Chapter 3: Social and Context-Aware Adaptation

Context awareness and adaptation are very closely related terms both in computer science and real-life situations. In addition, context awareness is connected to location awareness, where location defines spatial constraints, especially in terms of nomadic users. Context awareness is also related with ubiquitous or pervasive computing applications. The first article presents a prototype system which combines user profile preferences and context information as an assistive application to a nomadic user. Towards this direction and as the number of users in a certain society/community increases, the problem of similarity computation among users for adaptation recommendation provision becomes a challenging task. The identification of the most influential users in social communities stands as a very interesting area of research, especially for targeted advertising. Given that recommender systems can be also considered as online social networks, the second article enhance the first approach and tries to build further the idea of influential users for generic social network environments. Finally, this chapter covers some context-aware adaptation issues for client-server web applications in terms of privacy policies and anonymity.

Article 3.1

Title: “With a Little Help from My Friends”: Context Aware Help and Guidance for Using the Social Network

Authors: Nasim Mahmud, Kris Luyten, and Karin Coninx

In context of increasing mobile computing, this contribution provides a discussion on help systems that glean answers from human. The authors concentrate on social issues (e.g. availability and interruptibility) along with the issues of relevance and reliability for seeking the most appropriate person to ask for any information or help. They also present the software prototype of a help system called Ubiquitous Help System, which combines a user profile and preferences and context information for assistance to a nomadic user to find people who can support him in a large scale ubiquitous computing environment. Web to Peer is used as the communication framework. User profile is set by the user, the FOAF data are used as well. Central component of presented approach is context-aware search for human guidance where the context is defined as internal (such as user preferences) and external (such as location).
Article 3.2

Title: Influential Users in Social Networks
Authors: Dimitrios Vogiatzis

An online social network is conceived as a web-like structure of interacting nodes. The links might be formally established, such as those set explicitly in facebook, twitter and other similar social networks; or they might be implicit such as those formed by email exchanges, postings in fora, co-authorship of documents etc. By virtue of the content created, and knowledge possessed by each user, as well as by the user interactions, an enormous nexus of information is created. Social networks have always been present in the form of groups of acquaintances, co-workers, alumnae, etc. and they were the subject of study of various disciplines. A relatively recent change is the growth of online social networks, in terms of users’ participation and diversity. Making sense out of this information can be a formidable challenge. In this article various aspects of influential users in an online social network (SN) are examined and the term “influential” is defined in this context by focusing on its purpose or usefulness.

Article 3.3

Title: A Client-Side Privacy Framework for Web Personalization
Authors: C. Kolias, V. Kolias, G. Kambourakis, and E. Kayafas

Kolias et al. elaborate issue of privacy in adaptive web, which is more and more important as personalized web applications together with social networks are more and more in use. The authors discuss privacy policies, approaches to anonymization and pseudonymity employed when data stored on server side, and pros and cons when private data is stored on the client side. They propose an abstract architecture that enables users to fine-tune their privacy level according to trust they put on different applications. The user profiles are maintained on the client side. Presented approach differentiates itself in the profile manipulation and privacy negotiation process, where both the client and the service provider cooperate by exchanging a series of messages for a personalization action to take place.